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Service Dept.—50 Kamitoda, Toda-shi, Saitama, 335 Japan Tel: 0484-43-1111 Telex: J2962628 CLAFAC-J

clarion Service Manual

Published by Service Administration Section

Model 880NP

Model 882NP

Model 887NP

Model 889NP

MW/LW/UKW CASSETTE STEREO

Model
880NP (PE-9223A)
882NP (PE-9243A)
887NP (PE-9222A)
889NP (PE-9242A)

■SPECIFICATIONS:

[RADIO SECTION]

Circuit system:	Super heterodyne	
Tuning system:	Electronic Tuning	
Receive range:	UKW	87.5MHz to 108.0MHz
	MW	531kHz to 1,602kHz
	LW	153kHz to 281kHz
Intermediate frequency:		
	UKW	10.7MHz
	M/L	459kHz
Quieting sensitivity:	UKW	Less than 15dB (at 30dB S/N)
	MW	Less than 33dB (at 20dB S/N)
	LW	Less than 40dB (at 20dB S/N)
Separation:	UKW	More than 20dB
Fidelity:	UKW	100Hz 0±3dB
		1kHz 0dB
		7kHz −10±5dB
	M/L	100Hz 1±3dB
		1kHz 0dB
		4kHz −18±5dB

[TAPE SECTION]

Reproduction system:	4 track, 2 channel stereo cassette tape playback
Tape speed:	4.76cm/sec.
Wow & flutter:	Less than 0.25% (W.R.M.S)
Separation:	More than 30dB
Crosstalk:	More than 40dB
S/N ratio:	More than 45dB
FF time:	Less than 190sec. (C-60)

[SYNTHESIS]

Load impedance:	4Ω		
Power output:	3W×2 (at 3% distortion) 5W×2 (at max. output)		
Power supply voltage:	DC 13.2V (10.8V to 15.6V) Negative ground		
Current consumption:	Less than 3A		
Dimensions:	(880NP 887NP)	Width	178mm
		Height	50mm
		Depth	150mm
Weight:	1.1kg		
Dimensions:	(882NP 889NP)	Width	181.5mm
		Height	52.5mm
		Depth	160mm
Weight:	1.6kg		

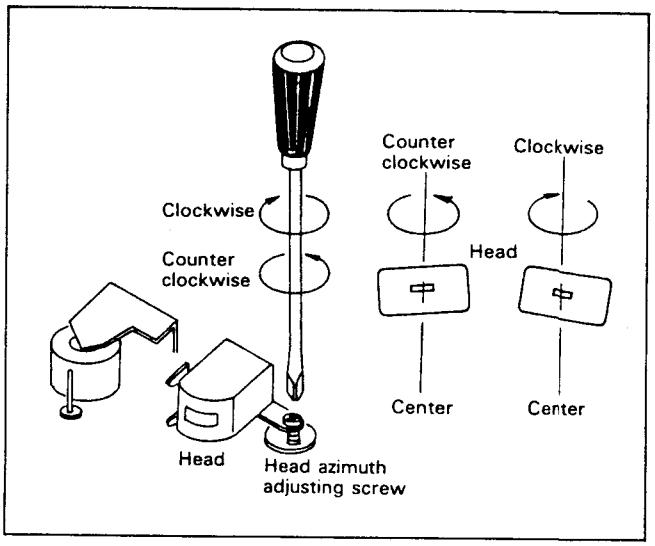
■COMPONENTS:

- **880NP (PE-9223A-A)**
- **882NP (PE-9243A-A)**
- **887NP (PE-9222A-A)**
- **889NP (PE-9242A-A)**

Main unit		1
Parts bag	921-8461-00	1
Use only 880NP, 887NP		
Hook plate	330-8216-00	2
Spacer	345-3653-01	1
Tap screw	700-5016-80	1
Hex nut	723-5000-21	1
Plate nut	725-0216-00	1
Flat washer	740-5000-10	1
Parts bag	921-1470-00	1
Use only 880NP, 887NP		
Escutcheon	370-3981-00	1
Parts bag	921-8462-00	1
Use only 882NP, 889NP		
Spacer	345-3653-01	1
Tap screw	700-5016-80	1
Hex nut	723-5000-21	1
Plate nut	725-0216-00	1
Flat washer	740-5000-10	1

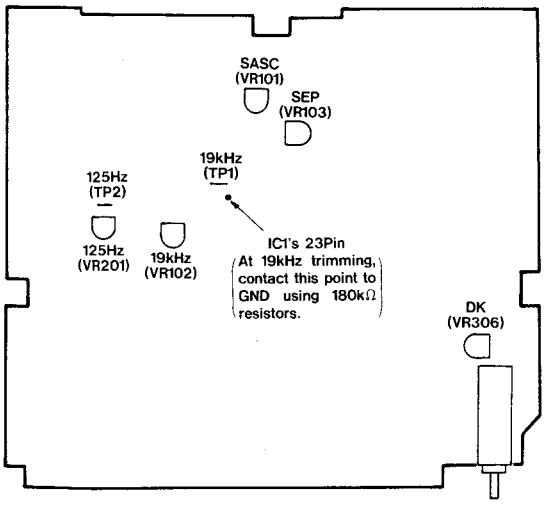
■HEAD AZIMUTH ADJUSTMENT:

Play the test tape 6.3kHz, −10VU and adjust by turning the head azimuth adjusting screw so that the output level becomes close to maximum.



■ADJUSTMENT:

● ADJUSTMENT POINT



● SPECIFICATIONS

- ○ SASC ·····40±5dB
- ○ 19kHz ·····19.0±0.1kHz
- ○ SEPARATION·····more than 20dB
- ○ 125Hz ·····125±1Hz (VF ON)
- ○ DK ·····0.775V±3dB

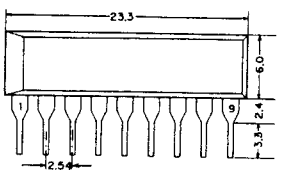
■EXPLANATION OF IC's:

Refer to description in IC service manual vol 1.			
LA3365	051-0501-00	MPX Stereo Demodulator	P15

Refer to description in IC service manual vol 2.			
TA7411AP	051-0798-00	FM IF System	P8
TA7271PCL	051-0656-01	AF Power Amp	P33
LA2220	051-0739-00	ARI System SK TYPE	P11

AN7254	051-0356-00	
■AN7254A	051-0356-01	FM Front End Circuit
AN7254B	051-0356-02	
AN7254C	051-0356-03	

■Outward Form



■Description

AN7254 is a semiconductor IC of FM front end without RF amplifier designed for car-born radio.
It incorporates frequency converter, local oscillator, IF amplifier and AGC amplifier.

■Difference

	Pin lead (mm)	Output (mV)		
		min.	typ.	max.
051-0356-00	3.0		—	—
051-0356-01	3.3	50	—	75
051-0356-02	3.3	65	—	100
051-0356-03				

■Absolute Maximum Ratings (Ta=25°C)

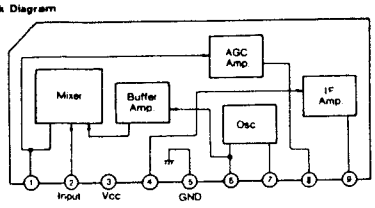
Item	Symbol	Rating	Unit
Power voltage	V_{cc}	9.8	V
Power current	I_{cc}	28	mA
Allowable loss	P_D	275	mW

■Electrical characteristics (V_{cc}=8V, f$_c$=98MHz, f$_m$=400Hz, 30%, Ta=25°C)

Item	Symbol	Test Circuit	Condition	min	typ	max	Unit
Oscillation voltage	V_{osc}	1	f_{osc}=108.7MHz	308		463	mV
AGC voltage	V_{AGC}	1	V_I=85dB			1	V
Sensitivity	S	1	V_I=20dB, when 54dB is set as 0dB	−5.4	−3.7	−2	dB
Signal to noise ratio	S/N	1	V_I=20dB	19	-		dB

Note) Operation guaranteed power voltage $V_{cc(op)}$=8.5~9.8V

■Block Diagram

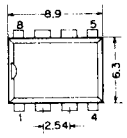


■Pin Assignments

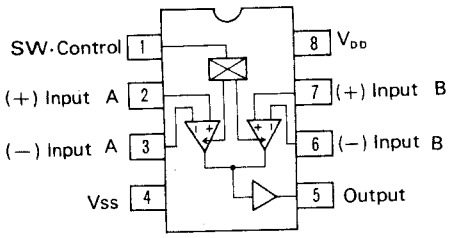
Pin No	Pin Names
1	Mixer Output
2	Mixer Input
3	V_{cc}
4	IF Amp Input
5	GND
6	Osc Base
7	Osc Emitter
8	AGC Output
9	IF Amp Output

■M5201P 051-0853-00 Switch OP Amp (2 Input 1 Output)

Outward Form



Block Diagram

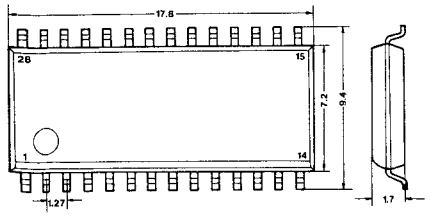


Outline

This IC is an operation amplifier provided with an analog switch function. It has 2-system inputs (A and B) and 1 output. It has 2 input differential circuit systems (A and B), 1 output circuit system and a switch circuit incorporated. By externally setting a control terminal to H/L, either input A or B is turned on, thus enabling operation similarly as conventional operation amplifiers. Under a voltage follower condition of Gv=0dB, it works as just an analog switch. It is also possible to independently set gains for A and B as a switch function plus an amplifier.

■AN7465S 051-0987-00 FM MPX Stereo Demodulator

Outward Form



Absolute Maximum Ratings (Ta=25°C)

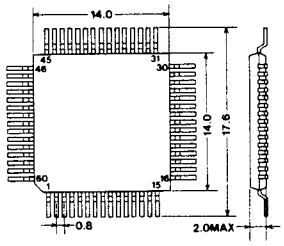
Supply Voltage	Vcc	10V
Lamp Drive Current	I_D	30mA
Power Dissipation	P_D	520mW

Explanation of Terminals

No.	Function
1	Low pass filter for noise AMP
2	Low pass filter for noise AMP
3	Constant at time applying AGC voltage
4	Constant at time of gate pulse width
5	Signal holding capacitor
6	FM noise suppressing circuit signal output
7	FM stereo MPX demodulator signal input
8	ATC low-pass filter
9	Resistor for adjusting the separation degree
10	Sound tone control terminal
11	Separation degree control terminal
12	Left channel output
13	Right channel output
14	Forced monoaural VCO stop terminal
15	Pilot signal detection low pass filter
16	Pilot signal detection low pass filter
17	Stereo lamp driver
18	Ground
19	PLL low-pass filter
20	PLL low-pass filter
21	Connect VCO oscillating CR
22	Pycan control low pass filter
23	Pycan control low pass filter
24	Pycan negating wave generation capacitor
25	Vcc
26	Signal input
27	High-pass filter control
28	Vref (standard voltage)

■TC9304F-006-US 051-1019-00 DTS MICRO-Controller Incorporating LCD Driver

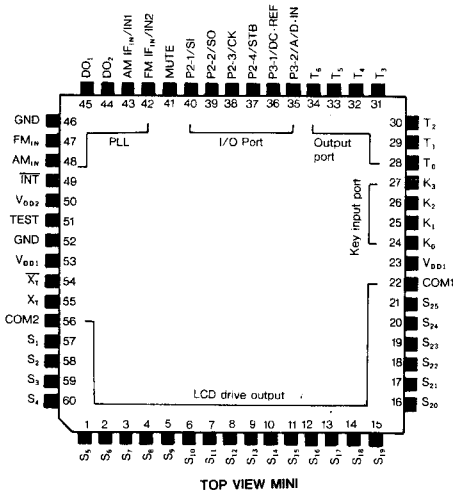
Outward Form



Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Supply voltage	V_{DD}	−0.3~6.0	V
Input voltage	V_{IN}	−0.3~V_{DD}+0.3	V
Power dissipation	P_D	400	mW

Terminal Connection

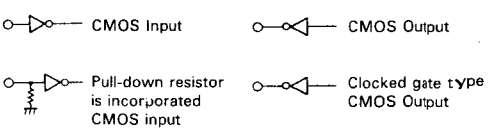


TOP VIEW MINI

Description of Terminal Functions

Pin No.	Symbol	Terminal name	Function
22 56	COM1 COM2	LCD common output	Common signal output for LCD With the matrix of S_1~S_{25}, max. 50 segments can be displayed. Three-value levels of V_{DD1}, 1/2 V_{DD1} and GND at intervals of 5ms are output to this terminal at 50Hz of cycle. (Note) At time of system reset, and executing time of CKSTP command and DISP OFF, output is automatically fixed to "L" level.
57~60 1~21	S_1~S_4 S_7~S_{25}	LCD segment output	Segment signal output terminal for LCD With the matrix of COM1 and COM2, max. 50 segments can be displayed. Data are output to these terminals by executing SEG command (COM1 system) and MARK command. Segment can be decoded by making the decode pattern in ROM area and executing it by DAL command. (Note) At time of system reset, and executing time of CKSTP command and DISP OFF, output is automatically fixed to "L" level.
24~27	K_0~K_3	Key input port	These are 4 bit input ports used for inputting the key matrix. When the key command which disignates this port for the operand unit is executed, data of these terminals can be input into RAM. Each terminal incorporates the pull-down resistor. Output ports, T_0~T_6, are normally used for the key return timing signal output.
28~34	T_0~T_6	Key timing output port	4 bit (T_0~T_3) and 3 bit (T_4~T_6) output ports. These are normally used for the key return timing signal output of key matrix.
35 36	P3-2 /A/D·IN P3-1 /DC·REF	I/O Port 3 A-D /Analog voltage input /Standard voltage input	2 bit I/O port This port can be designated for the input/output for each bit. This designation can be made according to the contents of inner port called PORT-3 I/O CONTROL. This terminal can also be used for the analog input of the incorporated 4 bit A/D converter. A/D converter input is switched according to the contents of PORT-3 I/O CONTROL PORT. The incorporated A/D converter uses the method of successive comparison. P3-1 is the standard voltage input and P3-2 is the analog comparison voltage input.
37~40	P2-4 /STB P2-3 /CK P2-2 /SO P2-1 /SI	I/O Port 2 /Strobe pulse out /Serial clock out /Serial data out /Serial data in	This is I/O port of 4 bits. This port can indicate input/output of each bit, and this indication is made by the content of inside port, called "Port-2 I/O control". Also, this terminal is combinedly used with interface (SIO). Shifting control of SIO is made by the content of SIO ON bit. By the use of this serial interface, SIO-command can be executed, thus, the peripheral unit option IC can be strongly controlled. Serial transfer type can select 2 types of NCD/NCD modes by programs.
41	MUTE	Muting signal output port	1 bit output port which is usually used as a muting control signal output.
42 43	FM IF_{IN} /IN2 AM IF_{IN} /IN1	FM IF signal input /input port 2 AM IF signal input /input port 1	This is IF-signal input terminal of IF-counter detecting the auto-stop independently for each band of FM or AM. It has the built-in input AMP, and is operated by C-connecting small amplitude. This terminal can be used as input port by programs. This selection can be made by the content of IN-control port.
44 45	DO2 DO1	Phase comparator output	This is the output terminal for phase-comparator of PLL. DO1 and DO2 are output in parallel, thereby, filter constant can be optimally designed for each band of FM/AM.
46	GND	Prescaler unit GND terminal	This is an earth terminal used exclusively for the built-in prescaler.
47	FM_{IN}	FM-station transmitting signal input	This is a prescaler input terminal at time of FM-band. Input the local oscillation output (VCO output) of 50~140MHz. C-connecting small amplitude operation is made with the built-in input AMP.
48	AM_{IN}	AM-station transmitting signal input	This is a programmable counter input terminal at time of AM-band. By PLL command, free shifting can be made for direct division system (LF mode) and pulse swallow system (HF mode).
49	INT	Initialize input	System reset signal input terminal for device. While INT is on "L" level, the reset is actuated and when it is on "H" level, the program starts from 0 address. Normally, the system reset is "on" (power reset on) when the voltage, 0V-4.5V, is applied to V_{DD}, and therefore this terminal is fixed on "H" level. (Note) After the system-reset is actuated, I/O port is set in the input mode, but the output of output port is not decided yet. It is therefore necessary to initialize it with a program whenever required to do so.
50	V_{DD2}	Prescaler unit power applying terminal (INH input terminal)	This is a power applying terminal at prescaler unit. Usually, apply the voltage 5V±10%. For V_{DD2}, apply the voltage of $V_{DD2} \leqq V_{DD1}$. Also, this terminal is commonly used with input terminal of INH port, and it is a selecting signal input of radio mode. With "H" level input, it is judged as radio ON. With "L" level input, it is judged as radio-OFF mode. In the use of CKSTP command in the program, if this command is executed in "L" level of V_{DD2} terminal, the operations of inside-clock generator and CPU are stopped, and it is possible to make memory-back up state by low-consumpting current (less than 1μA), at this time, all output-terminals (display output, output port, etc.) are set to "L" level automaticall. (Note) CKSTP command is effective at time of "L" level, and in execution at time of "H" level, the same operation is made as that of NOOP command.
51	TEST	Test mode control input	Test mode control input terminal. Unit is in test mode when "H" level is input and it in normal operating condition when "L" level is input or when in NC condition. The pull-down resistor incorporated in this unit is normally fixed on NC or "L" level. In the test mode, the device functions as the evaluator chip and with the externally mounted simulation board, the program can be evaluated on EP ROM base.
52	GND	Terminal ground	Terminal to ground the CPU & PLL.
23 53	V_{DD1}	Terminal to apply power	Terminal to apply power to device. In the normal operation, voltage of 5V± 10% is applied. In the backup condition (When CK STP command is executed), the voltage can be reduced to 2V. When 0V → 4.5V is applied to this terminal, the system reset is applied to the device, thus starting the program from 0 address. (Power on reset) (Note) Power on reset should be started from INH = "L" level. (Note) When the power is turned on, the contents of each board (output board, inner board, etc.) is not decided yet. It is therefore necessary to initialize with a program whenever required.
54 55	X_T X_T	Crystal	Crystal oscillator is connected to this terminal. A 7.2MHz crystal is connected. The crystal automatically stops oscillating when CK STP command is executed.

(Addition)



■PARTS LIST:

◎Electrical section

◎MAIN P.W.B

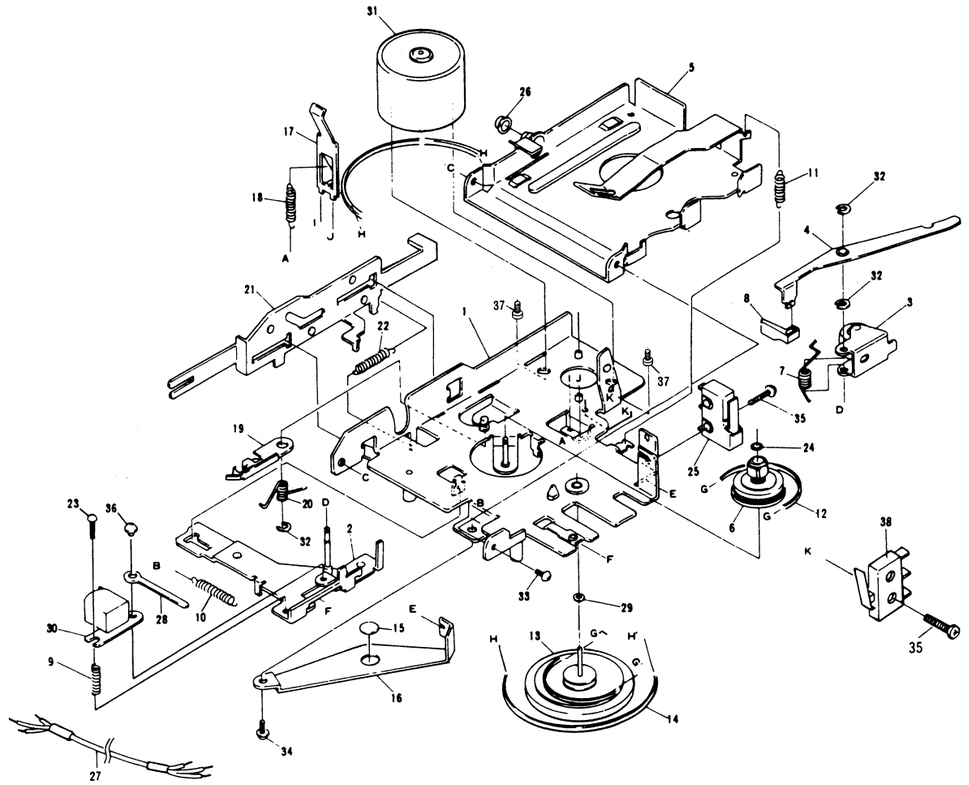
REF.NO.	PART NO.	DESCRIPTION	Q'TY
D201,202,301 501~507 509,510,515 516,522	001-0330-00	Diode 1SS119 D515 D516 D505	15
D512~514	001-0360-00	Diode S5566B	3
D101	001-0366-00	Diode LTZ-MR15	1
D511	001-0425-19	Diode HZS5.6J	1
D203,401	001-0425-24	Diode HZS9.1J	2
L501	009-0621-01	Choke	1
L102	010-2046-00	Coil	1
L101	010-2046-12	Coil	1
L201	010-2046-17	Coil	1
VR103	012-4100-01	Variable resistor 1kΩ	1
VR306	012-4100-02	Variable resistor 2kΩ	1
VR102	012-4100-03	Variable resistor 5kΩ	1
VR201	012-4100-04	Variable resistor 10kΩ	1
VR101	012-4100-13	Variable resistor 30kΩ	1
CCT201	050-0103-00	Component circuit	1
IC3	051-0501-00	IC LA3365	1
IC6	051-0656-01	IC TA7271P	1
IC2	051-0739-00	IC LA2200	1
IC4,5	051-0853-00	IC M5201P	2
IC1	051-0987-00	IC AN7465S	1
IC7	051-1019-00	IC TC-9304F-006-US	1
X201	060-0115-01	Ceramic resonator	1
SUP201	060-0122-01	Surge protector	1
X501	061-1066-00	Crystal 7.2MHz	1
Q201,202,306 401,402,502 504	100-1048-00	Transistor 2SA1048	7
Q103,301,302 501,503,505	102-2458-00	Transistor 2SC2458-Y,GR,BL	6
Q204,205	102-2458-51	Transistor 2SC2458GR,BL	2
Q404	102-2655-00	Transistor 2SC2655-O,Y	1
Q303~305	103-1504-00	Transistor 2SD1504-D,E	3
Q101,102,203 206,403	125-2003-03	Transistor RN1203	5
R405	114-1501-11	Film resistor 1W15Ω OM	1
C220	042-0249-00	Electrolytic capacitor 16V0.22μF TAN	1
C106	043-0212-00	Ceramic capacitor 390pF P	1
C103	160-4712-05	Ceramic capacitor 470pF HD	1
C124,309,312	171-1023-06	Ceramic capacitor 1000pF SC	3

REF.NO.	PART NO.	DESCRIPTION	Q'TY
C115,203,205 510,512	171-1033-06	Ceramic capacitor 0.01μF SC	5
C301,302,321 323	171-1523-06	Ceramic capacitor 1500pF SC	4
C101,102,110 111,503,506	171-2233-06	Ceramic capacitor 0.022μF SC	6
C116	171-3323-06	Ceramic capacitor 3300pF SC	1
C315,316	171-3333-06	Ceramic capacitor 0.033μF SC	2
C120	171-4723-06	Ceramic capacitor 4700pF SC	1
C118,119,213	171-4733-06	Ceramic capacitor 0.047μF SC	3
C105	171-6823-06	Ceramic capacitor 6800pF SC	1
C113	171-8222-06	Ceramic capacitor 8200pF SC	1
C511	173-1032-10	Polyester capacitor 0.01μF S	1
C207,326,334	173-1042-10	Polyester capacitor 0.1μF S	3
C330,331	173-2242-10	Polyester capacitor 0.22μF S	2
C310,311	173-6821-10	Polyester capacitor 6800pF S	2
C214	173-6831-10	Polyester capacitor 0.068μF S	1
C501	174-1200-13	Ceramic capacitor 12pF TC	1
C502	174-1800-13	Ceramic capacitor 18pF TC	1
C112,122,123 219,304,313 314,317,319 320,335	179-1053-63	Electrolytic capacitor 50V1μF S	11
C104,208,211 218,225,305	179-1063-33	Electrolytic capacitor 16V10μF S	6
C307,308	179-1073-22	Electrolytic capacitor 10V100μF S	2
C121,209,224 322,324,328 329	179-1073-23	Electrolytic capacitor 10V100μF S	7
C332,333,508	179-1083-23	Electrolytic capacitor 10V1000μF S	3
C327	179-1083-33	Electrolytic capacitor 16V1000μF S	1
C217	179-2263-33	Electrolytic capacitor 16V22μF S	1
C202,402,509	179-2273-23	Electrolytic capacitor 10V220μF S	3
C204	179-3353-63	Electrolytic capacitor 50V3.3μF S	1
C212	179-4743-63	Electrolytic capacitor 50V0.47μF S	1
C114,221	179-4753-63	Electrolytic capacitor 50V4.7μF S	2
C223,306,325 401,504	179-4763-23	Electrolytic capacitor 10V47μF S	5
C108,117	182-1043-63	Electrolytic capacitor 50V0.1μF SS	2
C303,336	182-1053-62	Electrolytic capacitor 50V1μF SS	2
C107,125,206 215,318	182-2243-62	Electrolytic capacitor 50V0.22μF SS	5
C201,210,216	182-3343-62	Electrolytic capacitor 50V0.33μF SS	3
C109	182-3353-63	Electrolytic capacitor 50V3.3μF SS	1
C222	183-6863-22	Electrolytic capacitor 10V68μF USS	1

NOTE : OM (Oxidized Metal) SS (Super Small)
S (Small) TC (Temperature-Compensating)
HD (Higher Dielectric) LL (Low Leak)
SC (Semi-Conductor) USS (Ultra Super Small)

■EXPLODED VIEW • PARTS LIST:

◎Tape mechanism section



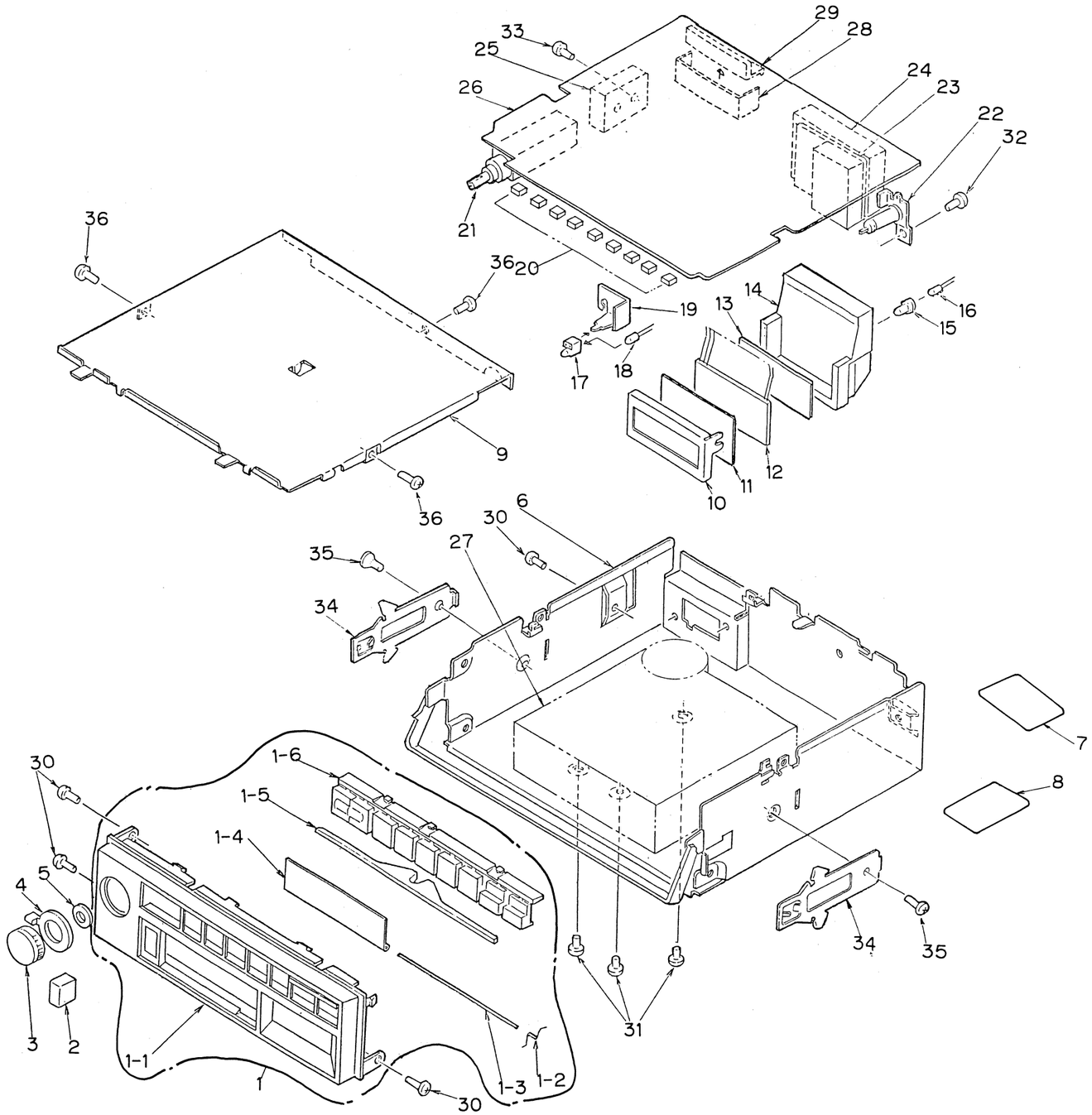
REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
1	960-3224-02	Deck plate ass'y	1
2	960-3225-02	Head plate ass'y	1
3	960-3229-00	Roller ass'y	1
4	960-3227-02	S-lever ass'y	1
5	960-3226-06	Pack guide ass'y	1
6	960-3228-04	Reel base ass'y	1
7	750-1986-00	Spring	1
8	631-0332-01	Sensor	1
9	750-1987-00	Spring	1
10	750-1988-01	Spring	1
11	750-1989-01	Spring	1
12	602-0053-01	Belt	1
13	611-0059-02	Flywheel	1
14	602-0062-00	Belt	1
15	746-0767-10	Special washer	1
16	630-1261-01	Flywheel plate	1
17	630-1260-02	Eject plate	1
18	750-1990-01	Spring	1
19	630-1258-02	Lock cam	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
20	750-1991-00	Spring	1
21	630-1257-04	Eject lever	1
22	750-1992-00	Spring	1
23	716-0384-00	Screw (M2x8)	1
24	746-0717-01	Flat washer	1
25	013-3505-00	Switch	1
26	632-0999-00	Guide roller	1
27	815-1896-01	Head lead	1
28	330-4896-00	Lead clamp	1
29	746-0617-00	Flat washer	1
30	011-0300-00	Head	1
31	960-3521-00	D.C motor ass'y	1
32	743-2000-10	E-ring (M2)	2
33	714-3003-11	Machine screw (M3x3)	1
34	731-2605-81	Tap tight (M2.6x5)	1
35	716-0438-00	Machine screw (M2.3x8.5)	2
36	714-2003-81	Machine screw (M2x3)	1
37	732-2604-11	Sems screw (M2.6x4)	2
38	013-2690-02	Switch	1

■EXPLODED VIEW • PARTS LIST:

• 880NP, 887NP

◎Main section

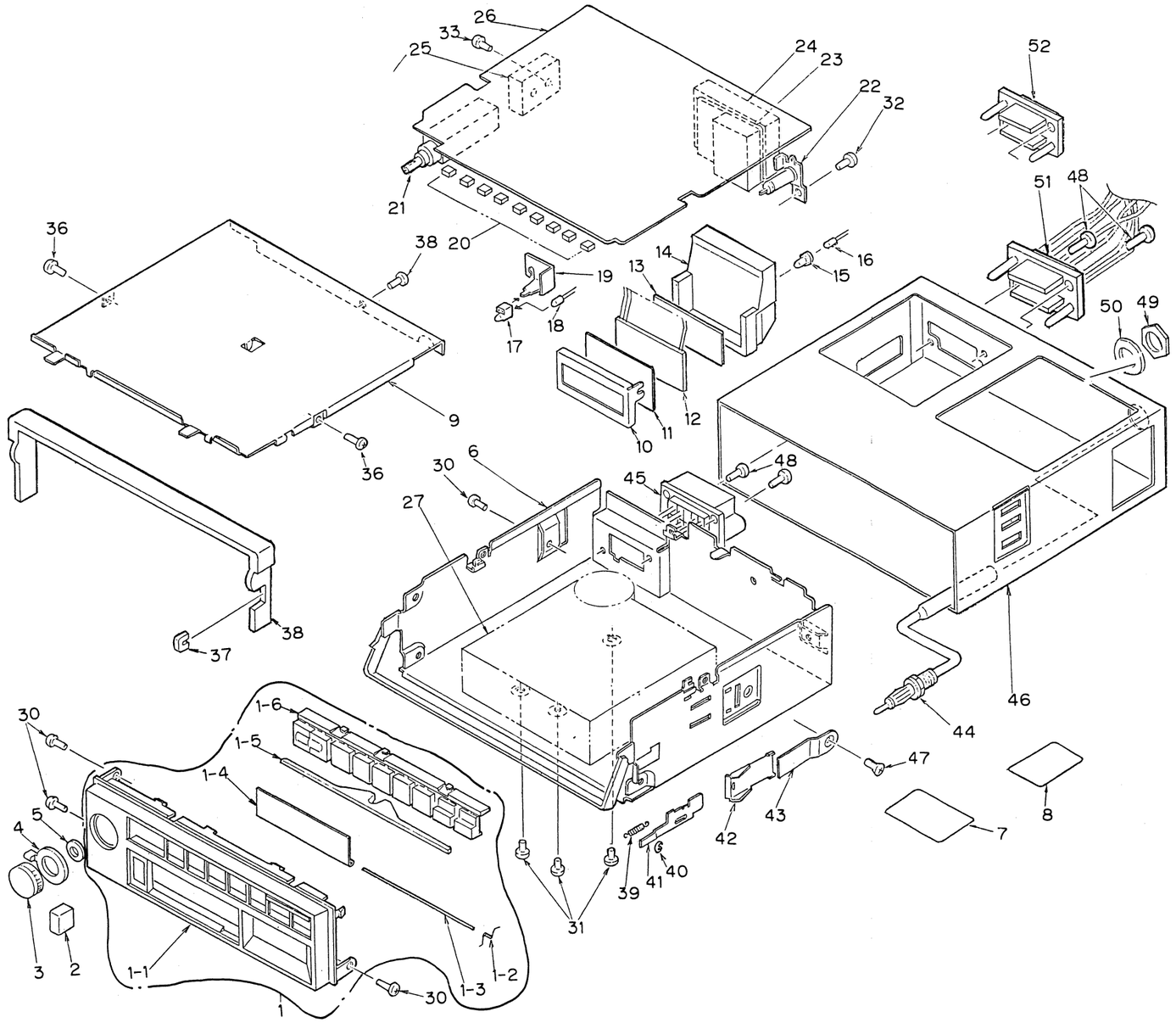


REF.NO.	PART NO.	DESCRIPTION	Q'TY
1	940-0947A	Escutcheon ass'y Use only 887NP (PE-9222A)	1
	940-0948A	Escutcheon ass'y Use only 880NP (PE-9223A)	
1-1	370-4990-00	Escutcheon Use only 887NP (PE-9222A)	1
	370-4990-01	Escutcheon Use only 880NP (PE-9223A)	
1-2	750-2692-00	Spring	1
1-3	341-1278-00	Shaft	1
1-4	320-0422-00	Dustproof cover Use only 887NP (PE-9222A)	1
	320-0422-03	Dustproof cover Use only 880NP (PE-9223A)	
1-5	335-2719-00	Illumi. plate	1
1-6	382-1487-00	Button (PRESET)	1
2	382-1488-00	Button (FF/EJECT)	1
3	380-4824-02	Knob (ON/VOL)	1
4	380-4944-00	Knob (TONE)	1
5	722-0370-00	Special nut	1
6	311-1297-00	Lower case	1
7	286-6937-00	Set plate Use only 887NP (PE-9222A)	1
	286-6991-00	Set plate Use only 880NP (PE-9223A)	
8	285-0915-00	Guide label	1
9	303-0356-00	Upper cover	1
10	330-8600-00	Front cover	1
11	373-0499-00	Dial cover	1
12	379-0199-00	Indicator (LCD)	1
13	335-2509-02	Reflector	1
14	335-2405-00	LCD holder	1
15	345-4157-17	PL cap	1
16	017-0367-01	Pilot lamp (14V 100mA)	1
17	345-3087-14	Illumi. rubber	1
18	017-0377-01	Pilot lamp (16V 38mA)	1
19	330-8840-00	Lamp holder	1
20	013-3640-01	Switch	9
21	012-4708-00	VR Use only 887NP (PE-9222A)	1
	012-4709-00	VR Use only 880NP (PE-9223A)	
22	092-0611-01	Antenna receptacle	1
23	880-1415A	FM Block Ass'y	1
24	941-0159-52	AM Tuner Pack	1
25	330-8837-00	IC holder	1
26	099-8271-03	P.W.B	1
27	930-0468-01	Cassette mechanism	1
28	330-8836-00	Plug holder	1
29	076-0310-10	Plug	1
30	714-3006-89	Machine screw (M3x6)	4
31	714-3005-81	Machine screw (M3x5)	3
32	731-3006-80	Tap tight (M3x6)	1
33	714-3005-11	Machine screw (M3x5)	1
34	750-2486-00	Spring	2
35	714-3006-40	Machine screw (M3x6)	2
36	714-3004-80	Machine screw (M3x4)	3

■EXPLODED VIEW • PARTS LIST:

• 882NP, 889NP

◎Main section

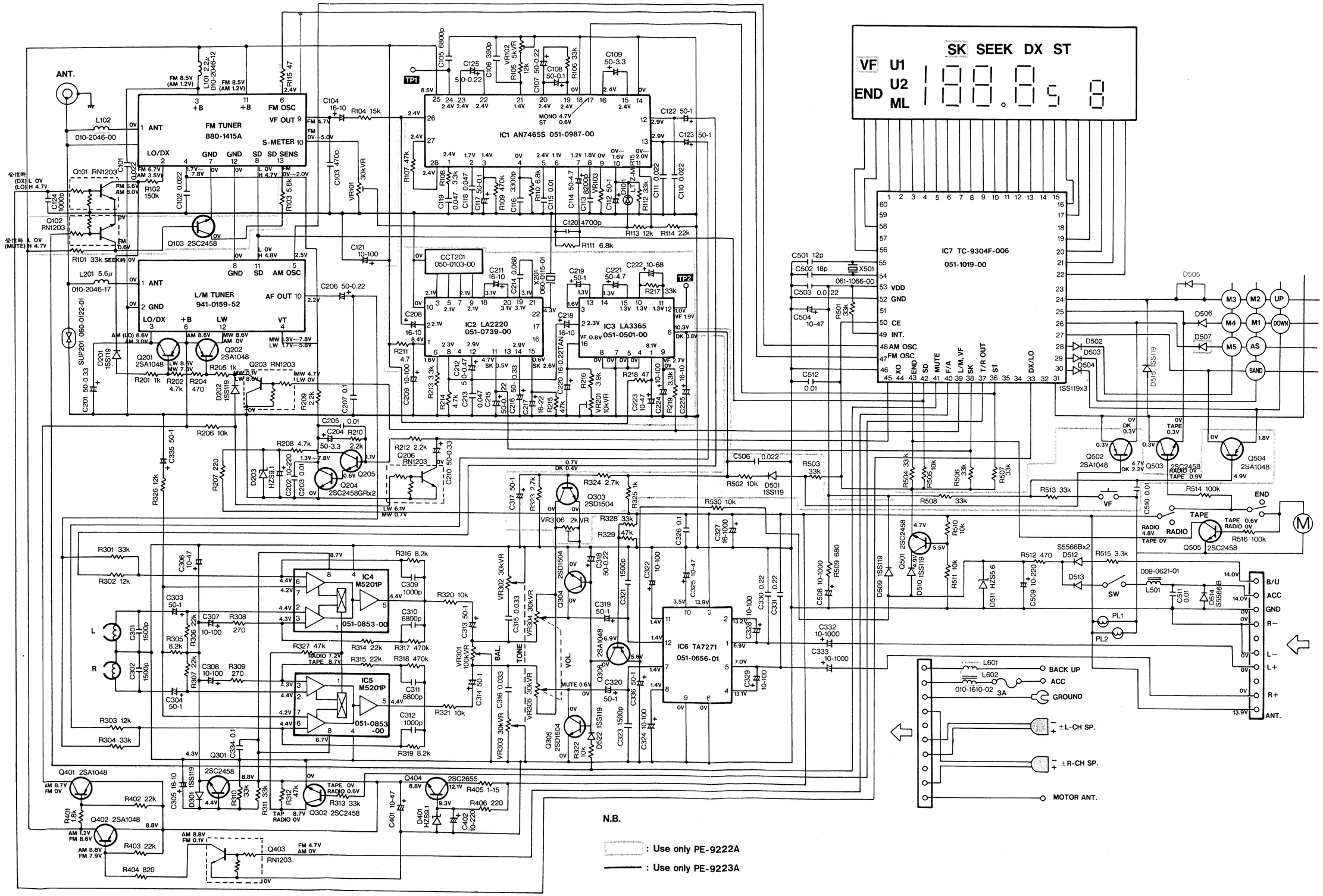


REF.NO.	PART NO.	DESCRIPTION	Q'TY
1	940-0949A	Escutcheon ass'y Use only 889NP (PE-9242A)	1
	940-0950A	Escutcheon ass'y Use only 882NP (PE-9243A)	
1-1	370-4990-00	Escutcheon Use only 889NP (PE-9242A)	1
	370-4990-01	Escutcheon Use only 882NP (PE-9243A)	
1-2	750-2692-00	Spring	1
1-3	341-1278-00	Shaft	1
1-4	320-0422-01	Dustproof cover Use only 889NP (PE-9242A)	1
	320-0422-02	Dustproof cover Use only 882NP (PE-9243A)	

REF.NO.	PART NO.	DESCRIPTION	Q'TY
1-5	335-2719-00	Illumi. plate	1
1-6	382-1487-00	Button (PRESET)	1
2	382-1488-00	Button (FF/EJECT)	1
3	380-4824-02	Knob (ON/VOL)	1
4	380-4944-00	Knob (TONE)	1
5	722-0370-00	Special nut	1
6	311-1297-01	Lower case	1
7	286-6938-00	Set plate Use only 889NP (PE-9242A)	1
	286-6990-00	Set plate Use only 882NP (PE-9243A)	
8	285-0915-00	Guide label	1
9	303-0356-01	Upper cover	1
10	330-8600-00	Front cover	1
11	373-0499-00	Dial cover	1
12	379-0199-00	Indicator (LCD)	1
13	335-2509-02	Reflector	1
14	335-2405-00	LCD holder	1
15	345-4157-17	PL cap	1
16	017-0367-01	Pilot lamp (14V 100mA)	1
17	345-3087-14	Illumi. rubber	1
18	017-0377-01	Pilot lamp (16V 38mA)	1
19	330-8840-00	Lamp holder	1
20	013-3640-01	Switch	9
21	012-4708-00	VR Use only 889NP (PE-9242A)	1
	012-4709-00	VR Use only 882NP (PE-9243A)	
22	092-0611-01	Antenna receptacle	1
23	880-1415A	FM Block Ass'y	1
24	941-0159-52	AM Tuner Pack	1
25	330-8837-00	IC holder	1
26	099-8271-03	P.W.B	1
27	930-0468-01	Cassette mechanism	1
30	714-3006-89	Machine screw (M3x6)	4
31	714-3005-81	Machine screw (M3x5)	3
32	731-3006-80	Tap tight (M3x6)	1
33	714-3005-11	Machine screw (M3x5)	1
36	714-3004-80	Machine screw (M3x4)	3
37	382-1489-00	Button	1
38	370-4991-00	Escutcheon	1
39	750-2624-00	Spring	1
40	743-2500-10	E-ring	1
41	330-8839-00	Lever	1
42	330-8578-00	Hook plate	1
43	750-2625-00	Spring	1
44	093-1042-01	Antenna jumper	1
45	854-0226-00	EX lead	1
46	300-7447-00	MTG bracket	1
47	714-3006-40	Machine screw (M3x6)	1
48	731-3010-89	Tap tight (M3x10)	4
49	722-0518-00	ANT MTG nut	1
50	340-1446-00	Spacer	1
51	854-0227-00	EX lead Use only 889NP (PE-9242A)	1
52	854-0229-00	EX lead Use only 882NP (PE-9243A)	1

■CIRCUIT DIAGRAM:

● 880NP, 887NP



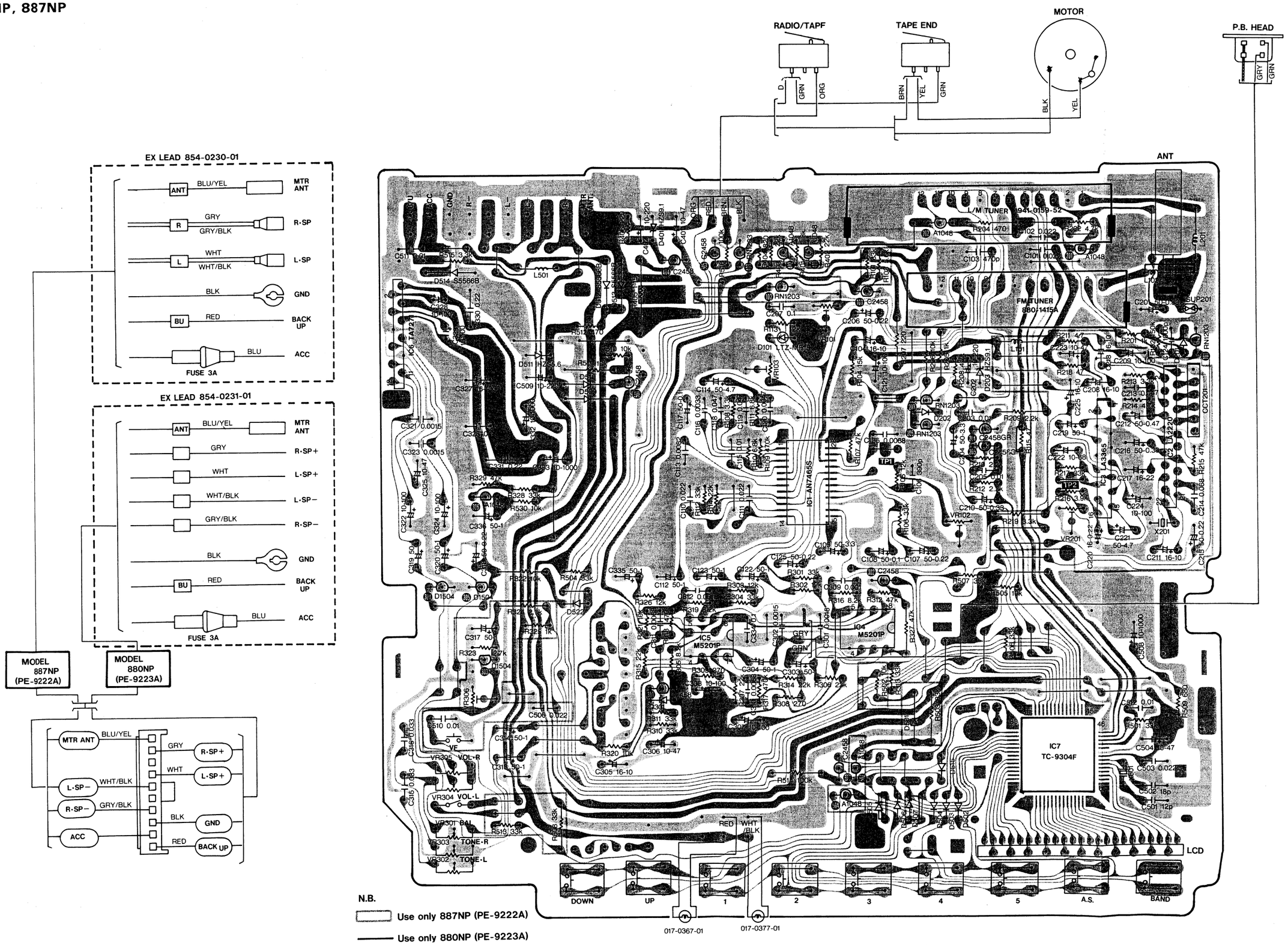
N.B.

: Use only PE-9222A

: Use only PE-9223A

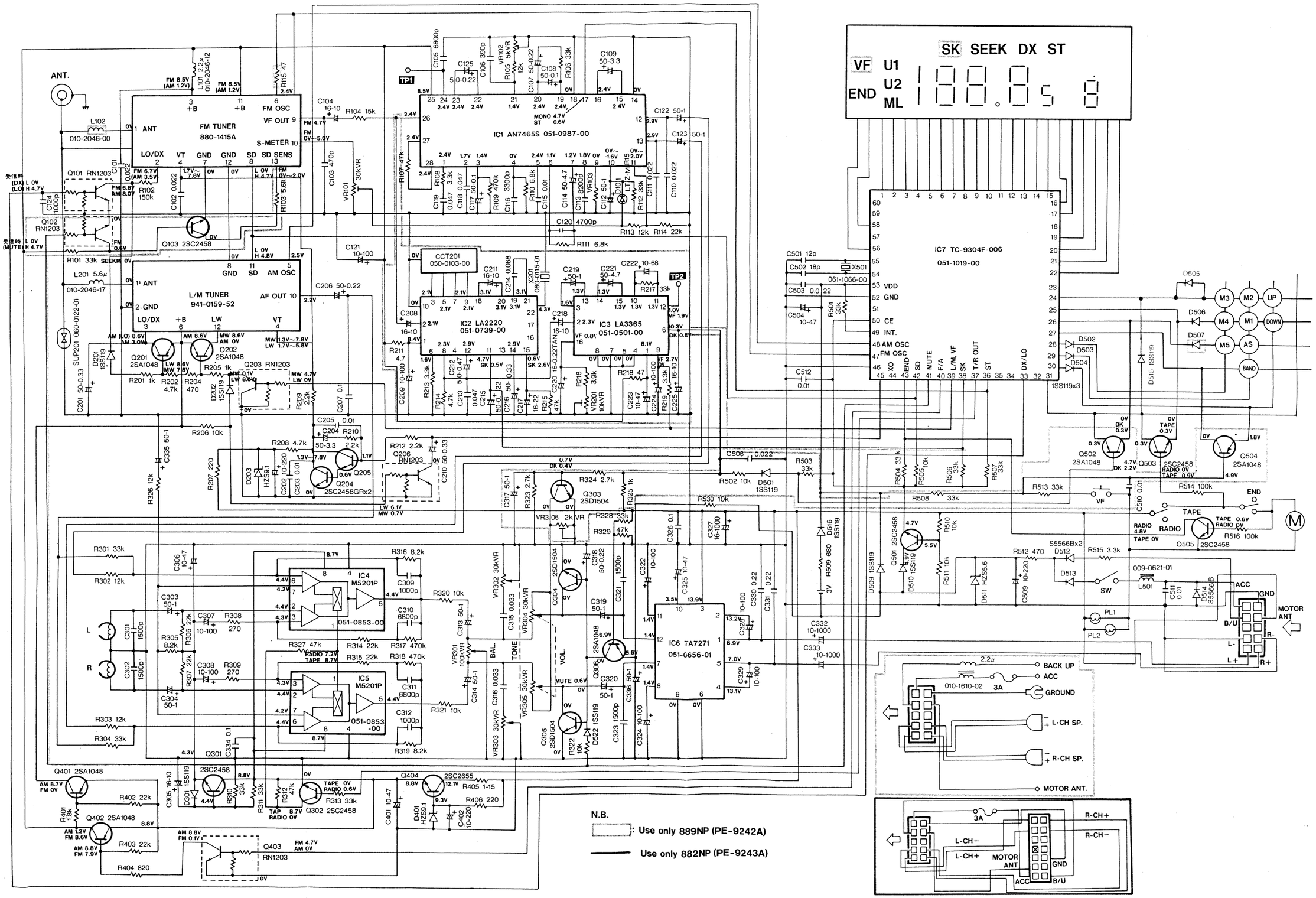
■PRINTED WIRING BOARD:

● 880NP, 887NP



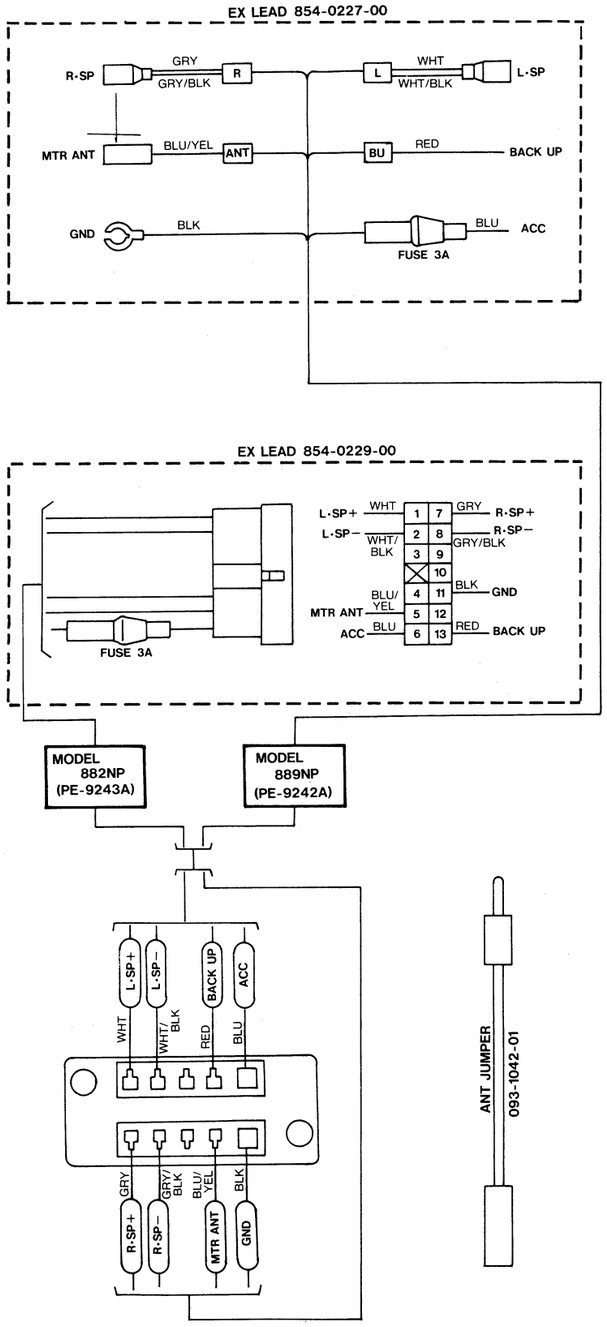
■CIRCUIT DIAGRAM:

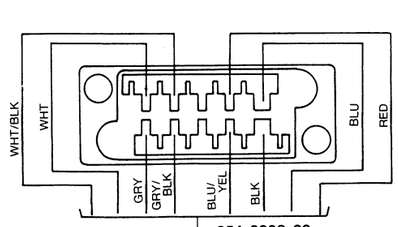
● 882NP, 889NP

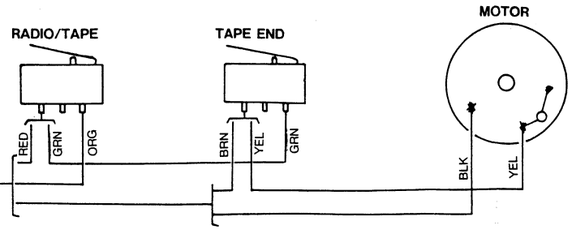


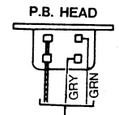
■PRINTED WIRING BOARD:

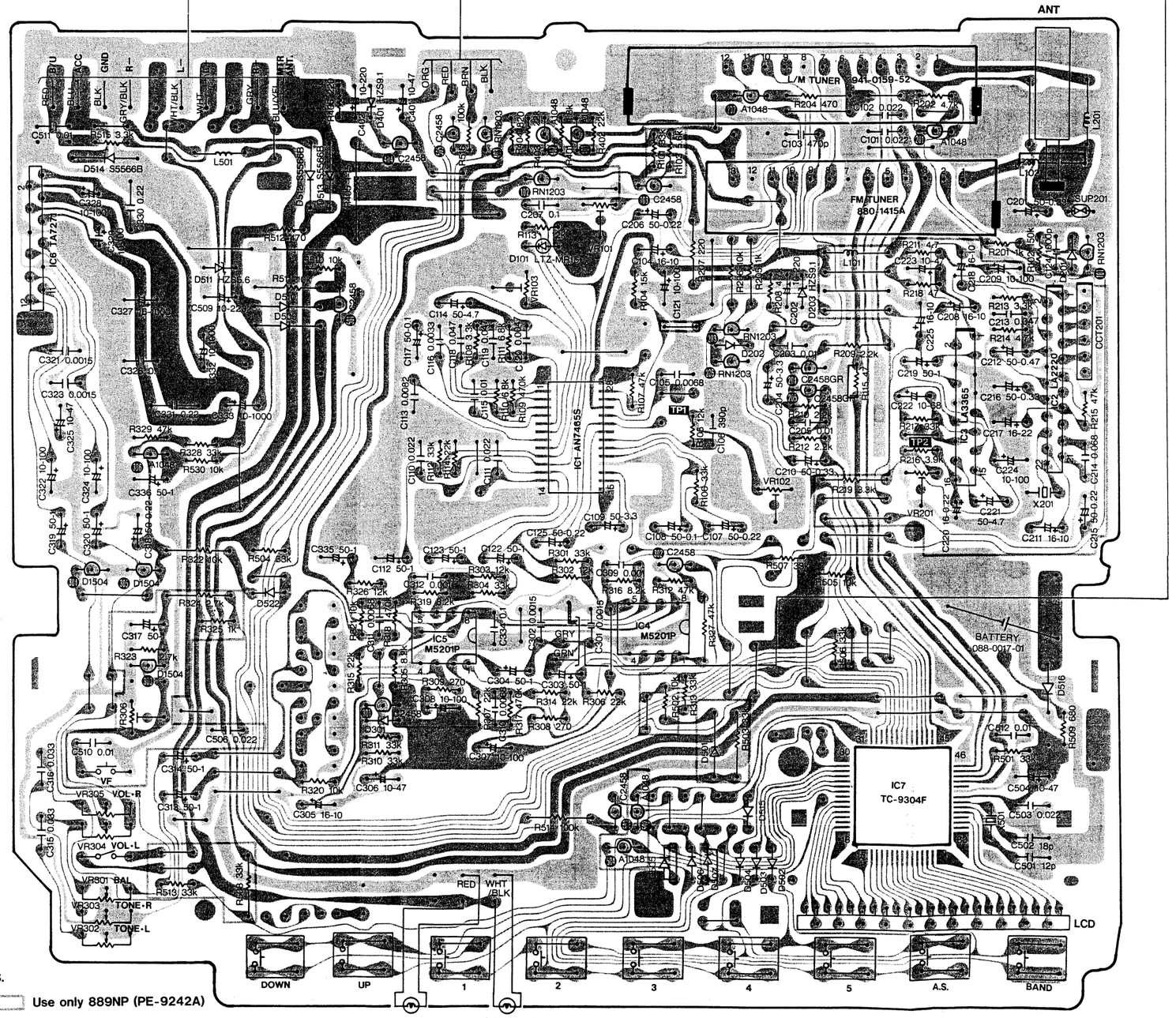
●882NP, 889NP









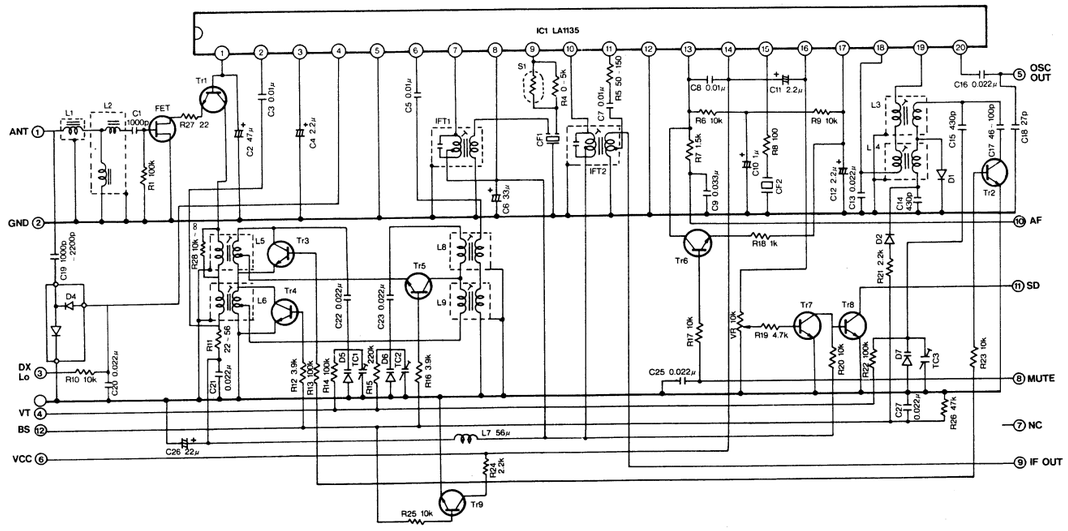


N.B.

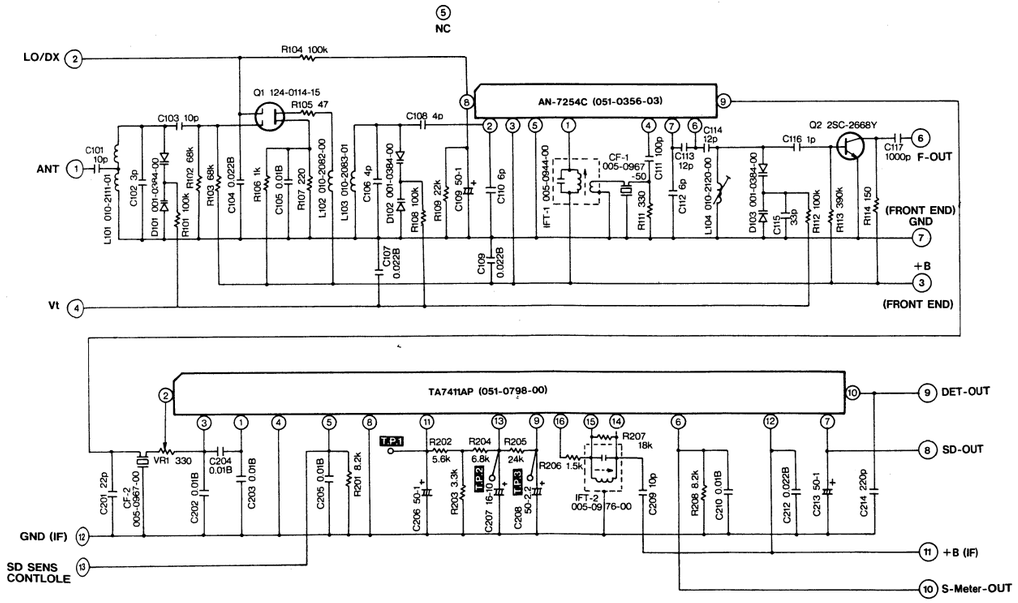
Use only 889NP (PE-9242A)

Use only 882NP (PE-9243A)

■AM TUNER PACK: (941-0159-52)



■FM BLOCK ASS'Y: (880-1415A)



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